



Washington Hunting News

FREE

Game Trails

August 2001

The Truth About Chronic Wasting Disease

Jerry Nelson, Deer and Elk Section Manager

If you've read an outdoor magazine recently or watched the news on TV, you've probably been inundated with sensationalized reports of diseases in both domestic livestock and wild animals. One of the maladies that may have been discussed is a disease of the central nervous system found in deer and elk called chronic wasting disease.

Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy (TSE). Other TSE's currently known to science include scrapie in domestic sheep, bovine spongiform encephalopathy (BSE) in cattle, kuru in humans, and Creutzfeldt-Jacob disease in humans.

CWD was first observed in captive mule deer at a research facility in Ft. Collins Colorado in the late 1960s. Scientists in Wyoming determined the disease was a TSE in 1978. Currently, CWD is found in wild herds of deer and elk in north-central Colorado and southeastern Wyoming. It's also been found in captive elk on a few game farms in the west. Most recently, two cases of

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Disabled Hunting Opportunities in Washington

Rory Calhoun, pictured above, is an avid hunter.

Department of Fish and Wildlife (WDFW) has come a long ways since 1985 when a hunter with a disability came to a Wildlife Commission meeting and requested changes in the current laws, which would allow hunters with disabilities to shoot from a motor vehicle. After teaming up with department staff and other hunters, some with disabilities, to form the "Citizens Task Force for the Disabled", they crafted legislation that passed in 1987 allowing hunters with certain disabilities to shoot from motor vehicles and have someone else retrieve and shoot wounded animals on their behalf. Since then, other Washington Administrative Codes (WACs) have been changed and added to increase access to the program of "HUNTING". The definition of a "Disabled Hunter" has changed over the years to include more types of disabilities, including low vision or blindness and loss of use of upper extremities.

The definition for (*veterans with disabilities*) is its own class. The definition for the reduced fee for (*fishers with disabilities*) was passed by legislature many years ago for the former Department of Fisheries and is not consistent with hunting fees or the *disabled hunter* definition created with the former Department of Wildlife. Most laws for reduced fees and veterans were not addressed in the creation of disability hunts and WAC rules. A consistent definition of disability (without regard to how they became disabled) is needed to reduce confusion.

Twelve wheelchair accessible wildlife viewing and/or goose and duck hunting blinds have been installed around the state on private, state, and federal lands. Some can be reserved in advance and require a key for the gate to access them. Others are first come first served open to anyone hunting, with hunter's with disabilities having preference of use over non-disabled hunters if they occupy them at least one hour before shooting time.

A few of them are portable and placed in the location before the season. Two of the three on federal lands require a fee and advanced reservations. An updated list of blinds with driving directions is available on line on the WDFW web site at www.wa.gov/wdfw. The older blue brochures titled "Regional Maps of Accessible Wildlife Recreation Waterfowl Viewing and Hunting Blinds" lists most of the blinds and is available from any WDFW office.

Special permit hunt drawings and some damage control hunts by permit or game management unit rules have expanded opportunities for all hunters including those with disabilities. For example, whitetail does may be taken in

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Picture yourself here. Bob Cromwell of Sammamish, Washington was a successful moose hunter in 1999. He hunted in GMU 117 north of Chewelah. In 1999, 33 moose permits were issued and 28 hunters were successful. This year (2001) 8,623 people applied for the 92 available permits. The level of interest in moose hunting continues to climb.



Prospects good for deer hunting statewide

Most deer populations in Washington are looking good, thanks largely to mild winter conditions. Given the right weather conditions and sufficient pre-season scouting and access arrangements, deer hunting should be good. High wildfire danger may mean both public and private land closures, however, access may be limited.

In the **northeast**, the white-tailed deer population continues to build while the mule deer populations have improved, but are still at relatively low levels. Special either-sex white-tailed deer hunting opportunities continue for Youth/Senior/Disabled hunters during the general buck season. This, along with the increased number of antlerless permits, is a great opportunity to take advantage of the growing whitetail population. Mule deer hunting will be best in the Roosevelt unit of northern Lincoln County. This year's dry conditions could lead to an out break of epizootic hemorrhagic disease (EHD) or otherwise known as blue tongue. This disease is fatal to deer but doesn't affect humans.

Further south in **southeast** Washington, the Blue Mountains area, best mule and white-tailed deer populations occur along the Snake River breaks and in the foothills (which is mostly private land). Deer populations in the mountains have declined over the last five years.

Northcentral Mule deer buck escapement, recruitment, and overwinter survival are excellent in Okanogan County. Post-season surveys last December yielded a ratio of 27 bucks per 100 does. About 30% of bucks were mature animals. Spring surveys this year showed an after-winter ratio of 44 fawns per 100 adults. Given the unusually dry conditions, deer will likely be concentrated near areas that retain green forage late into the season. This will include irrigated pasture in the valley bottoms, but get permission from private

landowners first. Many bucks are likely to remain at higher elevations during the early high hunt, and potentially on into the general season. Mule deer opportunity is greatest in those GMUs west of the Okanogan River. Whitetails are generally most plentiful east of the Okanogan River.

Douglas County should be excellent this year and better than last year in Chelan County. The deer population in Chelan County is increasing but is still only 25-50 percent of what it was prior to the winter of 1996-97. The 2000, post-hunting season ratios were 92 fawns and 21 bucks in Douglas County and 78 fawns and 24 bucks per 100 does in Chelan County.

In the **southcentral** region, deer herds have had good production and survival, although total deer numbers are still below the long-term average. Hunter success should be much improved over the last two seasons. Hunters can expect a quality experience with limited competition for the 3-point-or-better animals. The brightest prospects will be in the limited entry units (329/330, 342, 371) where modern firearm permit holders usually score success rates of 60 to 70 percent. With the high post season buck ratios, a mild winter, and the change in regulation, hunter success rates should increase.

In the **north Puget Sound** region, black-tailed deer hunting occurs mostly in the general season since much of the late buck seasons are now closed. Biologists are continuing their investigation of the impact of the hair slip syndrome and possible reductions in deer populations. Hunting season formats differ between individual GMUs based upon geographic variation. GMU 460 Snoqualmie has one of the higher success rates in the region during the general buck season. This unit was re-opened in 2001 for a limited permit only late buck season. One of the more popular areas for hunting is the

Weyerhaeuser Company Snoqualmie Tree Farm, which requires a fee access permit for entry by vehicle, although walking or bike access is free.

In the **southwest** region, 2001 spring surveys in Klickitat County indicated good recruitment with 54 fawns per 100 adults. This is the third highest ratio seen here in the last ten years. High ratios usually equate to good hunting in the fall. Hunters should be aware that much of Klickitat County is in dryland wheat production and privately owned so permission to hunt should be obtained in advance. On the west side of the Cascades in the southwest region, deer numbers are average and hunter success rates are down from past years. The hair loss syndrome continues to cause concern in southwest Washington.

Perhaps the most significant event to affect Southwest Washington deer hunters this year is the decision by Weyerhaeuser Company to restrict access into some of their lands to weekends only, see the article on page 4. Other private timber owners have been gating roads, many open only during hunting seasons. On the bright side the closures have provided better conditions for wildlife, including better buck escapement, which should mean greater hunting success for those willing to walk behind gates.

In the **coastal** region, buck to doe ratios are good throughout the region, particularly in the 2-point antler restriction areas and in areas where roads have been closed and re-seeded after timber harvest. One of the best units is the Skookumchuck Unit, which includes the Vail Tree Farm. On the Olympic Peninsula, the Pysht Tree Farm will offer some good opportunities for those willing to pay an access fee.

Chronic Wasting Disease, *continued from page 1*

CWD have been confirmed in wild mule deer in Saskatchewan. Animals affected by the disease will exhibit excessive weight loss, appear lethargic with their heads down and ears drooping, salivate excessively, drink water more than usual, spend less time with other animals in the herd or pen, and eventually die. There are a variety of other diseases that may cause one or more of these symptoms. Observing a sick deer doesn't provide conclusive evidence of CWD, or any other disease for that matter. Laboratory tests are necessary to determine the type of disease a deer might have.

The agent that causes CWD is not fully understood, however scientists are confident that the cause is not a virus or bacterium. The mode of transmission is another mystery that hasn't been completely unraveled. It is suspected that animal-to-animal contact is one form of transmission. Doe-to-fawn transmission may be possible as well, but is less likely. The origin of the disease is also unknown. One theory suggests that the disease developed spontaneously on its own, similar to a genetic mutation. Another theory is that a disease like scrapie in domestic sheep was able to cross the species barrier and infect deer.

Clues to the disease are in the proteins that occur in mammal nerve cells. Normal proteins are found on the membranes of nerve cells and they seem to play a role in the transfer of impulses between nerve cells. If the shape of the protein is altered in a certain way, it becomes a proteinaceous infectious particle or prion (PREE-ON). Scientists don't fully understand why proteins reconfigure into prions. One characteristic for all TSE's is that the

brain of the afflicted animal contains irregular prions, and these abnormal prions have the ability to make other proteins change shape simply by coming in contact with them. Although they are made up of approximately 250 amino acids, prions contain no nucleic acid such as DNA or RNA. Prions cause neighbor proteins to "mutate", despite the fact that they lack the genetic material that we normally associate with a mutation. The result is a slow, degenerative, chain reaction in adjacent proteins changing to prions and ultimately causing sponge-like holes in the brain tissue. As the lesions spread, brain function deteriorates, and the animal dies. CWD is always fatal.

There is no scientific evidence at this time that CWD can be transmitted from deer or elk to humans. Scrapie is a TSE that has been recognized in domestic sheep since the 1700s. Scrapie has never had an impact on the humans that worked with or ate domestic sheep. There is evidence to suggest that a variant Creutzfeldt-Jacob disease that is affecting people in Great Britain may have come from cattle infected with BSE. This is quite an unusual development, because TSE's were believed to be species specific. Because proteins are similar in similar types of animals, it makes sense that two closely related species would be more likely to trade prions that cause disease. In experiments, a small percentage of healthy elk have come down with the disease when they were held in the same pen with mule deer that had CWD. Less closely related animals like pronghorn, bighorn sheep and mouflon sheep exposed to the same conditions did not contract the disease. Research by the National Institute of Health is being conducted to determine if prions from one species can alter proteins from another species in a

test tube. There is still a lot we don't know about inter-species transfer of these types of diseases.

Although CWD has never been documented in Washington, hunters should still exercise caution when hunting deer and elk. Don't harvest an animal that appears sick or is behaving strangely. Wear rubber gloves while field dressing the animal. Don't eat the brain, spinal cord, eyes, or spleen.

Washington Department of Fish and Wildlife (WDFW) has been conducting targeted surveillance sampling for CWD since 1995. When deer and elk show symptoms similar to CWD, samples are collected by Department staff and sent to a laboratory in Wyoming to be tested. Last year WDFW expanded CWD testing to include locker checks of some meat processors that handled wild game. To date, all of the samples tested from Washington deer and elk have been negative for CWD. One of the difficulties in testing for CWD is that no test currently exists that can be conducted on live animals. Only brain stem samples from dead animals can be tested. Therefore the two best sources for test subjects come from hunter-harvested deer and elk and road-kills. WDFW will substantially increase sampling efforts this hunting season in an attempt to achieve statewide coverage. At this time we have no reason to believe that CWD occurs in Washington. With the cooperation of hunters, the expanded testing effort will provide an increased level of confidence that Washington deer and elk are CWD free. Biologists will be collecting samples from hunters during the season. If you are contacted please cooperate in this important effort.



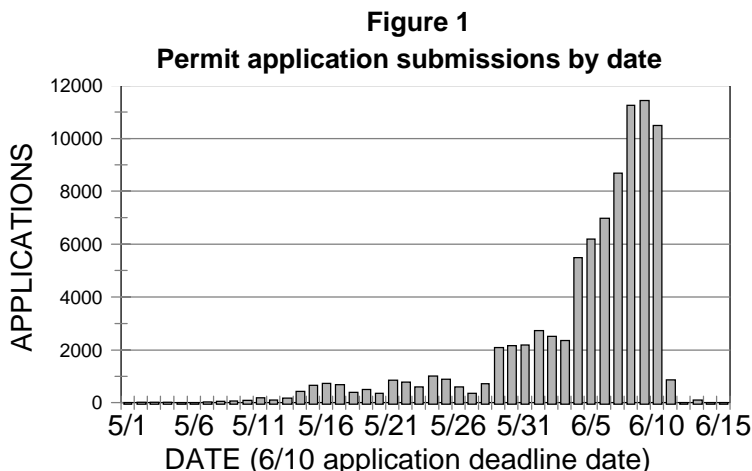
2001 Hunting Permit Application Process Successful

Jim Rieck, Wildlife Biologist

Those applying for special hunting permits this year were faced with a totally new experience. The WILD (Washington Interactive License Database) system became functional for the 2001 license year and went into production in March 2001. Hunters buying a hunting license and big game transport tags were faced with computer wielding license dealers and a relatively short time period to complete the process. Not only did the licenses and transport tags look different, so did the special permit application. In fact, the permit application was only a cash register type receipt. It was necessary to actually submit the application using a toll-free telephone number or use the Internet.

After the initial shock of negotiating a new system was over, most hunters were successful in making purchases and submitting applications. As usual most special permit applicants procrastinated and waited until the last few days (Figure 1). Records indicate approximately 60,000 or 70% of all permit applications were received during the last week before the deadline date and about half of these on the last three days. During the previous 5 weeks a little more than 24,000 applications were received. In fact, there were over 86,000 permit applications received for the 2001 drawings. That level of participation has not been seen since 1980.

The new way of submitting permit applications has many advantages. As long as the hunter makes certain the personal information is correct in his/her WILD system license records, the information coming into the special permit drawing system will always be correct. Under the old system, all of the information had to be read and hand keyed into the computer for every application received. People's handwriting needed to be interpreted for each application and errors occurred in the translation from time to time. Now, when a hunter makes a special hunt choice, the WILD system checks to make sure the correct hunting license or transport tag has been purchased. It also makes certain that the hunter is eligible to apply for the hunt. These checks, when performed before the drawing occurs, prevent a lot of grief afterwards and eliminate most errors.



Next year, permit applicants will be communicating with an IVR (Interactive Vocal Recording) telephone system instead of a live operator when the toll free number is dialed. Most hunters will find it straightforward and have no problems. However, those that do have difficulty will be transferred to a call center staff person to complete the submission. The use of this system is intended to prevent bottlenecks experienced during the last minute rush to submit applications before the deadline experienced by some this year. Better yet, don't procrastinate and apply early next year.

Forest Management Practices Impact Deer and Elk Populations

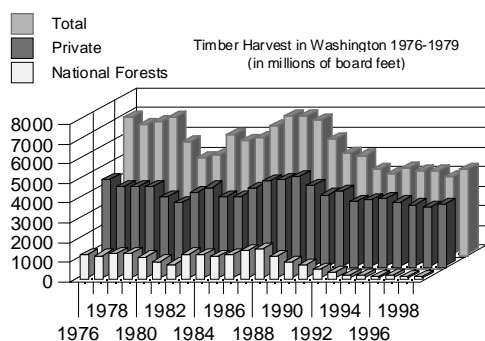
Rolf Johnson, retired Deer and Elk Manager

Deer and elk need food, cover, and water to survive and prosper. Deer and elk forage quality has deteriorated in recent years as a result of forest management practices.

On the west side of the state, clear-cut logging of forests have been a precursor to deer and elk population expansion. Timber companies traditionally burned the debris left from logging in preparation for replanting conifer seedlings. Burning created a fertilization effect by getting rid of logging debris and stimulating growth of palatable grasses, forbs and shrubs that are key forage items for deer and elk. In recent years, the practice of burning these clear-cuts has been drastically curtailed. Air pollution regulations have made it very difficult for timber companies to conduct these burns and instead they have resorted to use of herbicides. Unfortunately, use of herbicides kills many of the deer and elk forage species like grasses, forbs and shrubs.

Late Successional Reserves have also had an impact on deer and elk populations. Because Late Successional Reserves manage for older, more mature timber, rotation cycles are longer and timber harvest reduced. The Gifford Pinchot National Forest estimates that deer and elk numbers will be reduced by 40 percent in the Forest Service's Late Successional Reserves.

Hunger and malnutrition are significant behavior motivators, especially for elk. In recent years we have seen increasing damage problems as elk seek the more palatable and nutritious forage on agricultural and residential private property. Somehow deer and elk can tell the difference in fertilized plants and are drawn to them when nutritionally stressed even though human presence is a harassment disturbance. While elk populations in key forest areas are down, elk numbers in valley bottoms adjacent to agriculture and urban sprawl



are increasing. Elk and deer tend to visit these areas at night to avoid disturbance and then wander back to the forest for cover in the day. This shift in elk distribution is resulting in increasing conflict between people and elk. While killing problem animals is a last resort, all too frequently WDFW is forced to open hunting seasons to reduce elk populations in elk damage areas.

The WDFW is supporting a research project funded in part by the National Council of Paper Industry for Air and Stream Improvement and the Rocky Mountain Elk Foundation. Innovative new approaches are needed to identify relations between ungulate productivity, density, and forage conditions. We need to work with the timber industry to manage habitats that benefit the timber industry and yet benefit forage resources for deer and elk. The timber industry and the Rocky Mountain Elk Foundation are to be commended for supporting this research.

Upland Birds Will Be as Good as The Habitat

Forest grouse, pheasant, quail and partridge numbers across the state vary with the availability of good habitat, which boosts overwinter survival of broodstock and spring survival of chicks. WDFW biologists will have a better picture after completing late summer surveys, so watch for updates through local news media and on the website. In eastern Washington overwinter survival of upland gamebirds might not have been as high as last year, but the warmer drier spring and early summer probably helped with chick survival. In western Washington, upland bird hunters can anticipate a fair to good year because the spring brooding season was drier than normal and had a couple of extended dry spells in late May and June.

Forest grouse hunting should be equal to or better than last year.

Last year valley quail populations were high and provided excellent hunting. This year quail overwintering populations were good and the expectation is for another good quail year, especially in eastern Washington. Yakima, Okanogan, Benton and Chelan counties have had the highest harvest.

Chukar partridge are found in the breaks and steep hillsides along the Columbia, Yakima and Snake Rivers. Good over-winter survival of adult birds along with favorable weather during the brooding season is a good omen.

The forecast for pheasant hunting is based primarily on brood surveys completed in August so information is not available. Preliminary indications suggest a low number of adults in the Columbia Basin, but in the Yakima area higher adult over-winter survival was noted. Pheasant hunting will be spotty at best this year. WDFW will be releasing pheasants throughout eastern Washington during the first half of the season. The Western Washington Pheasant Release Program is continuing, check for details by contacting the regional offices.



Washington's Wildlife Areas

Mark Quinn, Lands Division Manager

I began my career with the old Department of Game in the mid 70's as a Game Range Manager on the 12,000 acre William T. Wooten Game Range (named for an old game warden) in SE Washington's Blue Mountains. I was plunked down in the middle of an incredible mountain landscape. Complete with deer and elk grazing in my backyard, bighorn sheep on the hillside, fish in the river and nearby lakes, no neighbors and few humans around with the exception of my wife and our young son, oh, and one loaner St. Bernard. The Wooten was purchased by the Game Department back in the 40's because it was important winter range for deer and elk. Nestled at the foot of the Blues with the Tucannon River as a centerline, the Wooten is one of WDFW's oldest Wildlife Areas and since part of me is still there I would say one of our most special, but they are all special.

WDFW owns or controls almost 800,000 acres around the state for fish and wildlife and related recreational opportunities. These wildlife areas range in size from just a few acres to over 100,000 and include ponds, estuaries, deserts, and mountain landscapes. While these areas were obtained by the WDFW under a variety of administrations and for a variety of reasons, each parcel now provides habitat to fish and wildlife. In some cases, these areas support potentially imperiled species like the Ord kangaroo rat or spotted bat. In other cases, these lands simply help sustain some of Washington's abundant natural heritage. In an era of rapid human growth, wildlife

areas represent some of the best last places in Washington State.

There are 65 Wildlife Areas in the state; 46 of these are located in eastern Washington and 19 in western Washington. In addition to the Wildlife Areas, there are numerous WDFW owned and maintained access sites. State Wildlife Areas were originally purchased to enhance, preserve, and perpetuate important wildlife resources or unique and important habitats. Wildlife areas established for the primary benefit of and emphasis on waterfowl management number about 26, mostly located in the Columbia Basin in eastern Washington. There are 25 areas dedicated to big game management, primarily deer and elk.

It's been suggested that hunters were the first conservationists in part because they naturally recognized the connection between wildlife and its habitat. Indeed taxes on sporting arms and ammunition have funded Washington's first wildlife land acquisitions. Recently others have gotten into the act as the value and need to protect these important habitats has been more widely recognized.

No matter where I traveled with the department, my job has always been related to managing or caring for WDFW's lands. Despite the different settings, each new area I visit provides me the same sense of wonder and enjoyment. Wildlife areas have always been conserving fish and wildlife. To me, they are all about no houses, barking dogs, traffic, people, smoke, airplanes....

Washington Wildlife Areas

Wildlife Area	County	Acres	Primary Species	Wildlife Area	County	Acres	Primary Species
LeClerc Cr.	Pend Oreille	614	wildlife	Gloyd Seeps	Grant	8,000	waterfowl
Sherman Cr.	Ferry	9,982	deer	Quincy	Grant	15,266	waterfowl
Swanson Lakes	Lincoln	19,000	sharptail	Byron	Yakima	995	waterfowl
W. Wooten	Columbia	11,778	big game	Sunnyside	Yakima	2,786	waterfowl
Asotin	Asotin	13,815	elk	I-82	Yakima	1,215	waterfowl
Chief Joseph	Asotin	9,735	big game	Rattlesnake slope	Benton	5,741	shrub-steppe
Grouse Flats	Garfield	640	big game	Colockum	Kittitas	88,000	big game
Banks Lake	Grant	44,423	waterfowl	L.T. Murray	Kittitas	50,000	big game
Lower Crab Cr.	Grant	17,000	waterfowl	Whiskey Dick	Kittitas	28,549	elk
Goose Lake	Grant	3,626	waterfowl	Quilomene	Kittitas	17,803	big game
Desert	Grant	35,100	waterfowl	Oak Creek	Yakima	42,000	elk
Potholes	Grant	32,500	waterfowl	Cowiche	Yakima	4,526	elk
Seep Lake	Grant	4,537	waterfowl	Esquatzel	Franklin	1,732	waterfowl
Winchester Lk.	Grant	1,950	waterfowl	Wenas	Yakima	104,000	big game
Scotch Creek	Okanogan	9,067	sharptail	Lake Terrell	Whatcom	1,500	waterfowl
Tunk	Okanogan	1,080	sharptail	Tennant Lake	Whatcom	720	waterfowl
Billy Clapp	Grant	4,000	deer, fowl	Stillwater	King	456	waterfowl
Methow	Okanogan	14,500	deer	Eby Island	Snohomish	421	swamp
Big buck	Okanogan	5,600	deer	Skagit	Skagit	11,317	waterfowl
Big Valley	Okanogan	847	deer	Cherry Valley	King	386	waterfowl
Rendezvous	Okanogan	3,180	deer	Spencer Island	Snohomish	412	viewing
Chiliwist	Okanogan	6,400	deer	Crescent Lake	Snohomish	360	upland game
Wahluke	Grant	55,000	upland game	Cowlitz	Lewis	13,940	recreation
WB10	Franklin	1,871	waterfowl	Klickitat	Klickitat	14,000	wildlife
Chelan	Chelan	8,200	deer	St Helens	Cowlitz	1,500	elk
Entiat/Swakane	Chelan	19,200	deer	Shillapoo/Vancouver	Clark	1,550	waterfowl
Sinlahekin	Okanogan	13,814	deer	Chehalis	G. Harbor	527	waterfowl
Driscoll Island	Okanogan	220	geese	Johns River	G. Harbor	1,500	elk, fowl
Wells	Okanogan	8,447	upland game	McNeil, Gertrude,	Pierce	4,575	wildlife sanctuary
	Douglas			Pitt Islands			
Chesaw	Okanogan	2,480	sharptail	Olympic	G. Harbor	1,500	elk
Priests Rapids	Grant	2,573	waterfowl	So. Puget Sound	Pierce	90	oak woodland
Sun Lakes	Grant	9,140	waterfowl	Scatter Creek	Thurston	1,085	prairie habitat



Operation Dark Goose

Fred Dobler, Region 5 Wildlife Manager

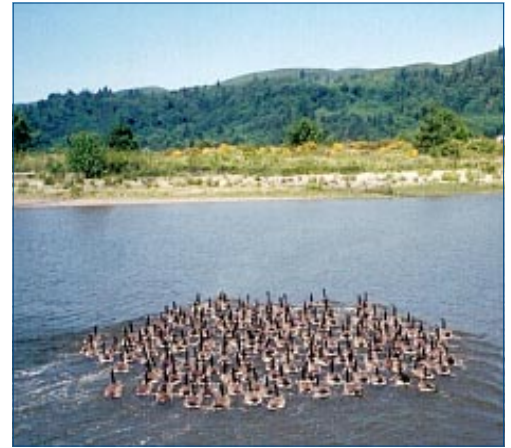
Goose Management in Southwest Washington and Northwestern Oregon is one of the most complex waterfowl management scenarios in the nation. Our effort to protect the dusky Canada goose while still controlling crop damage, has led to a set of regulations that require hunters to discern between dusky geese and other subspecies that frequent Western Washington Goose Management Area 2. Each goose harvested is checked at a hunter check station, and mistakes cost the hunter his hunting privilege for the rest of the season, within Goose Management Area 2. To compound our protection effort, a small population of dark resident geese has become established in the Lower Columbia River and Willapa Bay. The WDFW estimates that there may be as many as 400 of these dark residents, and they appear similar to dusks and in fact cannot be separated from real dusks when measured at the harvest check stations, but they are not part of the Copper River Alaska dusky population.



For several years WDFW has tried to mark with white collars as many of these local dark geese as possible, with the hope that hunters may be able to differentiate between these birds and true dusks. If a hunter sees a goose with a white collar he can rest assured that it is a legal bird to harvest and is not a dusky. With this differential harvest we hope to stop the growth of the resident dark goose population. We have called this effort Operation Dark Goose.

In the past the WDFW has used boats and support crews to move geese into corral type goose traps. Geese at this time of year are flightless after molting their flight feathers, and can be herded across the water to predetermined areas for capture. This year we adopted a technique perfected in Alaska, using a helicopter to drive geese into the trap.

In late June of 2001, WDFW Wildlife staff, USFWS and several volunteers captured and banded 783 Canada geese in the lower Columbia River. Region 5 Biologist, Pat Miller, was the team leader and his leadership and coordination made this effort a success. To facilitate the capture this year, a Robinson R-22 helicopter from Hillsboro Aviation was used to drive the birds into a portable trap that was constructed on dredge spoil islands in the lower Columbia. The pilot's skill contributed greatly to the success of the project. Once captured the birds were banded with a USFWS leg band. Mature birds were fitted with a white plastic numbered neck collar (processing crew jpg). Sixty-two geese were marked with neck collars. In addition approximately 50 goslings that were too small to wear a neck collar were leg banded for later recognition at the check station.



A notable occurrence at this year's capture was 8 geese that wore neck collars indicating that they had been caught and released in California, and had since moved north to the lower Columbia River. These were probably molt migrants, birds that move north to migrate as non-breeding birds.

We are very pleased with the results of this year's effort, and plan to do another capture later this July in Willapa Bay. The use of a helicopter is a great tool and allows the biologists to separate out target dark birds for capture while letting others go free. The geese were released back into the lower Columbia River and all were in very good condition.

Weyerhaeuser Company Tree Farm Access

Our Tree Farms are dynamic, working forests. Safety is a very important consideration and Weyerhaeuser Company is proud of its overall safety performance. We ask our visitors to think about safety, practice safe driving and woodsmanship, and be especially cautious with fire.

St Helens Tree Farm

There are a couple of "key" points that the public needs to remember. The first is that access to the St Helens Tree Farm is limited and can change because of weather conditions or operational activities. The second is, before visiting the St Helens Tree Farm; visitors should always call the toll free hotline (1-866-636-6531) to check on current access permission and tree farm and road use rules.

The St Helens Tree Farm, has established several corridor routes that access the South and North Toutle Rivers as well as the Green River Fish Hatchery. Another corridor has been identified to access state public land that lies along the ridge between the North and South Toutle Rivers.

These corridors are kept open during the week as well as the weekend except when fire danger or operational issues require they be closed. Call the toll free hotline to get current information on the corridors and other areas that may be open for access.

Two additional opportunities, the Green River drainage and portions of the South Fork drainage, may be opened for weekend access, weather permitting, and when operational activities are minimal. When weekend access is permitted into these areas, the hotline will specify the particular weekend and the entry gate required to be used. During those weekends when access is

allowed, camping and campfires will not be allowed unless otherwise stated.

Similar to last year, it is planned to open the Kalama and Cowlitz River drainages for general weekday and weekend access following the end of state fire season. This usually coincides with modern firearm deer and elk hunting seasons.

All visitors to the St. Helens Tree Farm are advised to check the hotline for current access information before making their plans. The hotline also identifies other tree farm and road use rules.

Vail Tree Farm

During the deer hunting season, access onto the Vail Tree Farm is open to the public during the weekends only. Access information is available on the toll-free telephone line at 1-800-361-5602 or (360) 446-3813.

During the weekdays motorized vehicle access is not allowed. Always check the phone message system for current information.

White River and Snoqualmie Tree Farms

Access for hunting and other recreation on Weyerhaeuser's White River and Snoqualmie forestlands is allowed by Recreation Access permit from March through mid-December. The permit system helps eliminate vandalism, garbage dumping and other illegal activities thus improving safety and allowing for a higher quality experience for hunters and other outdoor enthusiasts.

During the hunting season, access to thousands of acres is allowed through the Grass Mountain gate off

Highway 410 east of Enumclaw, the Spur 10 Gate off the North Fork County Road north of North Bend and through the Griffin Creek Gate off State Route 203 northeast of Fall City. Gates are generally open from 3:30 PM to one hour after sunset on weekdays and from one hour before sunrise to one hour after sunset on weekends.

An annual permit is required for each vehicle entering Weyerhaeuser property. Permits and maps can be purchased from agents in Auburn, Carnation, Duvall, Enumclaw, Issaquah, Puyallup, Redmond, Snoqualmie and South Prairie for \$60 plus the agent's fee. For more information including brochures and permit agent locations, call 1-800-433-3911, or visit our web site at www.weyerhaeuser.com/recreation.

Game Management Plan Input Needed

The Washington Department of Fish and Wildlife (WDFW) will soon be conducting a public survey about current issues on hunting and game species management. This information will be used to develop game management plans for major species and species groups. Public input is necessary to guide the department in developing policies and strategies for harvest, population and habitat management through the year 2008. If you receive a survey, please take the time to express your opinion.



Elk Hunting Holding Its Own

Elk herd population status varies tremendously across the state, but overall hunting prospects are good. In general, eastern Washington has spike bull only general seasons and western Washington has three-point minimum antler general bull seasons. High wildfire danger may mean both public and private land closures, restricting elk hunting access.

In the far **northeast** portion of the Selkirk herd hunter success is always relatively low due to the abundance of escape cover for widely scattered, small groups of animals. Fresh snow during the season will likely play a greater role in success than the number of elk in the herd.

In the **southeast**, Blue Mountains elk herd populations have improved in most areas, with the exception of the Wenaha-Tucannon Wilderness (unit 169). Hunter success rates will average about 5%, which is consistent with success rates experienced in the 1990s, but below the 10% success rates experienced in the late 1980s. This is a spike bull only area, and low calf survival in some parts of the Blues continues to reduce the number of spike bulls available for harvest.

In **southcentral** Washington, the Yakima herd numbers are about 12,000 elk. The management objective is to reduce the population because of increased damage problems and habitat concerns. As a result, a significant increase in antlerless permits are authorized for this year. The hunting outlook isn't as rosy for the Colockum herd. Calf production and bull ratios are still below normal and all branched bull permits have been discontinued again this year.

In the **north Puget Sound** area elk populations are down and hunting opportunities are limited. The unit number for the White River was changed from 472 to 653, but it is the same unit. Elk hunting in the Green River Watershed (GMU 485), Nooksack unit GMU 418 and Sauk, GMU 437 remains closed.

In **southwest** Washington, last winter was very mild, resulting in excellent winter survival of elk. Historically,

pre-season ratios of 19 to 33 bulls per 100 cows have been recorded in 3-point units. Concern over declining populations in several of the units with high harvest pressure, has led to a reduction in cow elk harvest allocation. Managers are striving to reduce cow harvest by at least 50% in units 506, 520, and 530. To achieve this goal, modern firearm antlerless permits were reduced by half, and cow opportunity for archers has been limited this year to the first 12 days of the late archery season. A precipitous decline of the South Rainier elk herd since 1994 has led to an elimination of antlerless harvest in units 510, 513, and 516. Loss of habitat and high harvest pressure is believed to have led to this decline.

In the **coastal** region of the Olympic Peninsula, elk populations have declined about 40% over the last ten years. WDFW has spent the last three years working with Peninsula Indian tribes on needed harvest reductions and elk populations appear to be responding. Historically, pre-season ratios of 15 to 35 bulls per 100 cows have been counted in Olympic 3-point units. As numbers of elk have responded to reduced antlerless harvest by the state and tribes, more legal bulls have been seen in surveys. Based upon last year's harvest and present habitat conditions, hunting is likely to improve. This year the Dickey (GMU 602) will be open for archery, muzzleloader, and modern firearm general seasons for the second time in 15 years. Pre-season bull ratios are similar to other surrounding units but many, brushy, thick, swampy areas provide some older bulls hiding places. They also make for difficult hunting conditions. The best hunting opportunities should be in the southern and eastern part of the region where elk are expanding. The Willapa Hills area should offer good hunting again this year. Much of the area has road access restrictions that limit vehicle entry, but that's where the best hunting is found. Elk are also expanding their range in the Skookumchuck unit (667) and the Minot Peak unit (660). These growing herds are now spending time on private farms causing increased damage problems.

Impact of Roads on Elk and Other Wildlife

George Tsukamoto

The proliferation of roads across the landscape has been a major concern to wildlife biologists for a long time. Besides the obvious, that roads destroy valuable wildlife habitats, scientists have been researching the relationship of roads and their impacts on elk and other wildlife. Research has overwhelmingly demonstrated those increased road densities can impact wildlife in a number of ways.

If given a choice elk will avoid roads. Their aversion to roads is associated with the vehicular traffic and human activity that occurs near them. Roads have an impact on elk security, habitat effectiveness, and vulnerability. Elk security is affected when increased road traffic occurs during seasons of high human use for outdoor recreational pursuits such as camping, hiking, sightseeing, fishing, and for logging, firewood gathering, etc. When this happens, elk may be forced into undesirable habitat or in competition with other elk.

Habitat effectiveness is damaged when roads compromise key habitat components such as water holes, foraging areas, and calving areas. A 1983 study by L. Jack Lyon showed that elk habitat effectiveness could be expected to decrease by at least 25% with a density of one mile of road per square mile of land, and by at least 50% when road density is 2 miles per square mile of land. Too many roads fragmenting the landscape particularly impact big game winter ranges. Frequent accessibility causes unnecessary stress and disturbance to

elk at a critical season of the year.

Elk vulnerability is increased significantly by increased number of roads and by road improvements. Roads provide access for hunters during the hunting season and for poachers at other times. Washington Department of Fish and Wildlife (WDFW) researchers documented a significantly higher poaching rate in the areas with the highest open road density and closest proximity to human populations. They predicted that significant reductions in poaching would result with lower densities of drivable roads in most elk ranges.

The greatest amount of hunting pressure is concentrated near the road systems and as a result, this is where the majority of the harvest occurs. Wildlife biologists have encouraged road management actions such as seasonal road closures, gated roads, road decommissioning and restoration. The WDFW cooperates with private landowners, public land management agencies in road management. The Green Dot Road Management System is a cooperative road management program that is in place to address the concerns of too many roads. Under this system, all roads in an area are closed *unless posted open with a green dot*. Refer to page 17 in the 2001 Big Game Hunting Seasons and Rules Pamphlet. Next time you see a gated road on public or private land, seasonal closure, or Cooperative Road Management Area (Green Dot System) respect the law and know the reasons why.

Disabled Hunting Opportunities in Washington, continued from page 1

specific Game Management Units (GMUs) during the modern firearm general season by hunters with a *Disabled Hunter Permit (DHP)* using their regular deer tag. New for this year, in response to damage complaints in some eastern Washington GMUs, is an "any" mule deer opportunity for hunters with a *DHP*. Read about these in the 2001 Big Game Hunting Seasons and Rules pamphlet.

Other opportunities are available for hunters with a *DHP* on the "Private Lands Wildlife Management Areas" and some military bases offer hunters with disabilities some opportunities.

Special drawing permits are available to all hunters for elk hunts in some GMUs. Some of the special drawing permit hunts in western Washington are offered exclusively to hunters with disabilities having a disabled hunter permit.

Another way of expanding opportunities for *DHP* hunters is the drive-in road access program called "Road Access Entry Program." This program allows hunters with a *DHP* and with a Road Access Entry Permit to drive in a closed motor vehicle area or behind specific locked gates where other hunters can only walk in, ride a bike, or use a horse. In the last two years WDFW has coordinated a statewide effort to consolidate the program and make it easier for hunters with a *DHP* to apply and receive information. Land managers participating in the program include: commercial timberland managers, federal land managers, and the Departments of Natural Resources and Fish and Wildlife. Allowing limited numbers of hunters with disabilities to drive on some road systems while balancing the need for wildlife and habitat protection, will help provide an equal opportunity for hunters unable to walk into these areas.

WAC 232-12-828 describes the full definition of the disabled hunter law and who qualifies for a Disabled Hunter Permit. Once qualified for the permit, it allows the hunter with the disability to apply for "disabled only hunts" and the "road access entry program" drawing. The road access entry drawing is only for a chance to obtain access into a road area open only to walk-in hunters. Hunters must follow all applicable hunting rules and regulations while in the area.

During the 2001 legislative session, ESHB 1655 passed establishing an advisory committee to the Fish and Wildlife Commission consisting of citizens with disabilities interested in hunting and fishing issues. Their purpose is to help advise the Fish and Wildlife Commission when considering disability related issues or requests from persons with disabilities for accommodations to department programs and services.

The Department formed an internal ADA committee in January 2000. The WDFW ADA Coordinator chairs the newly formed ADA committee membership consisting of staff from all programs, regions, a member of the DNR Recreation Public Use Section, and the ADA Recreation Accessibility Specialist from the Interagency Committee for Outdoor Recreation. This committee serves the public, as well as Department staff, by providing assistance on issues and policies that might impact a person with a disability when using or benefiting from a service or program. It also considers all ADA related suggestions, requests, or complaints concerning facilities, sites, and programs.

For more information or to get involved in hunting related activities for persons with disabilities call the WDFW ADA Coordinator at 360-902-2349.



The Cost of Hunting

George Tsukamoto

I wonder if I'm representative of the average big game hunter in Washington. This year, for example, I purchased a deer and elk license, a small game license and applied for 5 different special species permit hunts. I suspect, with my luck, I will be hunting deer and elk during the general season and perhaps indulge in some upland game bird hunting. Maybe even some duck hunting later in the year. If I spend just two or three days in the field hunting the investment will be worth it. If I don't spend a day hunting, it still will be worth it, because I will have contributed towards wildlife conservation in Washington.

I was surprised to find the cost of a hunting/fishing combination license, valid for the entire state, to be \$7.50 for residents in 1922 (Table 1). However, the county resident hunting and fishing license sold for only \$1.50. What a bargain! Those were truly the good old days.

Hunting license costs have risen over the years to keep up with inflation. Considering deer and elk hunting opportunities in Washington, hunting license fees were increased 17 times from 1922 through 1999. Deer and elk hunting fees have increased on the average every 4.5 years.

If the cost of a hunting license is compared with the average monthly salary for the beginning of each decade, we get an appreciation for the relative value of a hunting license. Table 2, represents a cost comparison between hunting license fees, the prevailing average monthly salary in the U.S., and the cost of some food products during the same period.

In 1999, a significant change in fee structure and cost occurred in Washington. In some respects this new fee schedule allowed more flexibility and may have reduced costs for some participants. It is difficult to compare previous fee schedules with changes that were made in 1999 because separate tag fees for species were eliminated and some licenses authorize multiple species.

Washington Migratory Bird Stamp and Print Program Celebrates 15 Year Anniversary

Don Kraege, Waterfowl Section Manager

The Migratory Waterfowl and Wetland conservation Stamp and Artwork legislation was signed into law on May 10, 1985. This legislation established a Washington "duck stamp" required to hunt migratory waterfowl, and an artwork program designed to generate revenue using the image on the stamp. The first Washington duck stamps were sold in 1986 for \$5. In spite of inflation that should have raised the stamp cost to over \$8, the price has remained at \$6 since 1991.

Stamp revenue is dedicated to habitat enhancements on WDFW lands and private lands, acquisition of migratory bird habitat, program administration, and monitoring. Artwork revenue is dedicated to contracts with individuals or nonprofit organizations for enhancement of migratory bird production habitat. Over the past 15 years, the program has been responsible for habitat improvements on almost 20,000 acres of land throughout the state, including funding for acquisition or expansion of four wildlife areas, construction of wetland projects on 15 wildlife areas, and habitat enhancements on 5,000 acres of other lands. Examples of these projects can be seen on the WDFW web page at <<http://www.wa.gov/wdfw/wlm/game/water/duckstamp.htm>>.

Stamps and prints are traded by collector's nation

Table 1. Resident Hunting License, Deer and Elk Tag Fee Changes Since 1922

Year	State hunt & fish	State hunt	County hunt & fish	Deer tag	Elk tag
1922	\$ 7.50	NA*	\$1.50	NA	NA
1929	\$ 7.50	NA	\$1.50	NA	\$ 5.00**
1933	\$ 3.00	NA	\$1.50	NA	\$ 5.00
1948	\$ 5.00	NA	\$2.50	NA	\$ 5.00
1953	\$ 5.00	NA	\$2.50	\$ 1.00	\$ 5.50
1954	\$ 7.00	\$ 4.00	\$3.00	\$ 1.00	\$ 5.50
1956	\$ 7.00	\$ 4.00	\$3.50	\$ 1.00	\$ 5.50
1957	\$ 7.00	\$ 4.00	\$3.50	\$ 1.00	\$ 7.50
1958	\$ 8.00	\$ 4.50	\$4.25	\$ 2.00	\$ 7.50
1966	\$ 9.00	\$ 5.50	\$5.25	\$ 2.00	\$ 7.50
1971	\$12.00	\$ 6.50	\$8.00	\$ 3.00	\$10.00
1975	\$12.00	\$ 6.50	\$8.00	\$ 5.00	\$11.00
1976	\$14.00	\$ 7.50	\$9.00	\$ 5.00	\$11.00
1981	\$14.00	\$ 7.50	\$9.00	\$10.00	\$15.00
1982	\$20.00	\$10.50	NA	\$10.00	\$15.00
1985	\$24.00	\$12.00	NA	\$15.00	\$20.00
1992	\$29.00	\$15.00	NA	\$15.00	\$20.00
1999	NA	NA	NA	\$36 deer only \$28 with elk	\$36 elk only \$28 with deer

* Not Applicable

** Bold type indicates change from previous year.

Big game hunting licenses were separated from the upland game license. The combination hunting and fishing license is also no longer available.

Table 2. Comparison of Hunting License Fees to Other Values

Year	Hunting License*	Avg. Monthly salary**	License cost as monthly % of Avg	Loaf of bread	Gallon of milk
1922	\$ 1.50	\$ 103	1.46%	.32¢	
1930	\$ 1.50	\$ 114	1.32%	.09¢	.56¢
1940	\$ 1.50	\$ 108	1.39%		
1950	\$ 2.50	\$ 249	1.00%	.14¢	.92¢
1960	\$ 4.25	\$ 395	1.08%		
1970	\$ 5.50	\$ 630	8.73%	.24¢	\$1.32
1980	\$ 9.00	\$1,313	6.85%	.53¢	
1990	\$12.00	\$2,201	5.45%	1.06	
2000	\$36.00	\$2,496	1.44%		

* Best bargain [county hunting license (1922-81), deer/elk combination (1999-2001)].

** U.S. Bureau of Labor Statistics

A deer hunter in 1922 could hunt for as little as \$1.50, if he hunted exclusively in the county he was licensed in. A nonresident could have hunted for as little as \$10.00. Today, a resident deer-hunting license cost \$36.00. If a hunter applies for a special permit hunt, another \$5.00 is required to purchase a permit application for a chance at drawing a special permit hunt.

The hunting license fees calculated as a percentage of the average monthly salary in the United States reveals some interesting information. A hunter who purchases a hunting license today is spending about 1.4% of an average monthly wage. This compares favorably to the 1920s. The trend in license cost displayed as a percentage of average monthly income is declining. The highest percentage occurred in the 1970s and 1980s. We truly are experiencing the good old days. Hunting is still one of the greatest bargains around.

Look for bear foods for good bear hunting opportunities

Black bear seasons open throughout most of Washington in August and September. Be sure to look over page 22 in this year's Big Game Hunting Seasons and Rules pamphlet for the specifics. Most of the state should offer fair to good hunting opportunities for black bears. Regardless of the area you plan to hunt, concentrate your time around bear food sources, such as huckleberries, blue berries, blackberries, and other berry patches, old orchards, and hawthorn and plum thickets. Also, don't overlook predator calling. Predator calling can be an effective way to hunt bears and is becoming more and more common. Finally, keep a sharp eye out for bear sign. First and for most look for bear scat (feces). During the early portion of the season, scats should be almost entirely composed of berry residues. Also, look for turned over rocks, fresh bite marks on trees about head high (mark trees), and distinct trails where bears place their paws in the same spots time after time. These indicators will help confirm if bears are using the immediate area.



New Hunter Reporting Requirement - Mandatory Reporting for Deer, Elk, Bear, and Turkey Hunters.

Clifford G. Rice, Game Surveys Coordinator

In recent years, the Department of Fish and Wildlife has estimated harvest by sending a questionnaire to a sample of licensed hunters. Generally, about half of the hunters receiving the questionnaire respond, yielding a sample of about 10% of all hunters. Estimating harvest by this method has been unsatisfactory for several reasons. For one thing, this sample has been too small for accurate estimation needed for management of small geographic areas such as Game Management Units (GMUs). To ensure the well being of the game populations, regulations must be more conservative than they might be with better information. This translates directly in less hunting opportunity.

Increasing the sample would cost more, and costs are already high due to the expense of mailing out the questionnaire (and reminders to hunters who have not responded), paying for return postage, and costs for data entry. The Department has also had a requirement that

all successful deer and elk hunters send in a report card. However, compliance has been consistently low.

To overcome these problems, starting this year, **all hunters who purchased a tag must report their hunting activity for each deer, elk, bear, and turkey tag acquired by calling toll-free 1-877-945-3492 or over the Internet at www.fishhunt.dfw.wa.gov.**

Successful hunters must report within 10 days of making their kill. Unsuccessful hunters, including hunters who ended up not hunting, must submit their report by 31 January.

Hunters who submit their report within 10 days of killing an animal and unsuccessful hunters reporting on or before 10 January will be entered into a special permit drawing for one of nine deer or elk special incentive permits valid for the 2002 hunting season. Details are in the 2001 Big Game Hunting Seasons Pamphlet, page 7. Deer, elk, bear, and turkey tag holders who do not submit a report by 31 January, 2002 will need to do so

before purchasing tags for hunting in 2002.

To help you report your hunting activity, we encourage you to use the worksheet on page 7 of the 2001 Big Game Hunting Seasons Pamphlet. You will be asked several questions; 1) whether you hunted or not, 2) what Game Management Unit(s) (GMUs) you hunted most, and 3) The number of days you hunted there, 4) whether you killed an animal, 5) kill location GMU number, 6) date of kill, 7) sex/age of the kill, 8) number of points on left and right antler, and 9) for deer what type (whitetail, blacktail or mule deer)?

You do not have to submit reports for all tags at the same time. Do not send us the worksheet. To keep costs down, we can only accept reports through the telephone or website. With your assistance, we can look forward to enhanced management of our game resources and greater opportunity for Washington hunters.

Upland Wildlife Restoration Project

Ted Johnson, Wildlife Biologist

The Washington Department of Fish and Wildlife's, Upland Wildlife Restoration Project has a 19- member staff conducting long term habitat enhancements and partnerships across Washington. The emphasis of this work unit has been to create valuable partnerships with private landowners, sports-groups, and schools with primary emphasis on agricultural farmlands and forested uplands statewide.

The majority of all funds that support this effort come from three federal sources, with another \$100,000 being donated each year by conservation minded sports groups, such as Pheasants Forever, National Wild Turkey Federation, Rocky Mountain Elk Foundation, and others. The focus of the fieldwork has been on privately owned agricultural lands. It is estimated that 80% of all wildlife is produced on private lands in the state of Washington. These lands play a significant role in providing habitats for a variety of wildlife species.

The Upland Wildlife Restoration project accomplishments have grown in the last 10 years from 650,000 acres under written cooperative agreements (5 to 15 years in length), to over 4 million acres today. There are over 1,300 cooperating landowners enrolled in the program throughout the state. Since 72% of Washington is privately owned, that adds up to a lot of habitat that provides homes for wildlife. Presently, about 16% of the state's private lands are enrolled in the program providing significant public access for recreational hunting.

An important mission of the program is to increase upland bird populations by improving and increasing the amount of habitat utilized by game species such as ring-necked pheasant, quail, chukar, grouse, partridge and wild turkey, and numerous other wildlife species as well. WDFW personnel work one-on-one with landholders and farmers to plant grasses, trees, and shrubs, install water developments, and feeders, to enhance wildlife.

An increased federal appropriation in 1991 resulted in funding 13 additional staff members. Great strides have been made in Washington, making it a national model and the largest project of its kind in the nation. Presently



sixteen other states are asking for assistance to create similar program's.

As an incentive to private landowner participation, agency staff not only provides technical help, but hands-on development of the drafted farm plans and enhancement prescriptions. In exchange for materials and help making these enhancements a reality, landowners agree to open their lands up to the public for recreational opportunity, mainly hunting. In doing so a state statute provides liability protection to those landowners that provide such a public benefit. At the same time, WDFW provides free signage and assists the

landowner in posting their lands as "free to hunt" or "Hunt by written permission." The WDFW enforcement officers are provided copies of agreements and property descriptions in order to enforce the posted regulations, and to make sure these lands remain open to the public for the term of the agreement.

Over the past decade the Upland Wildlife Restoration project has provided considerable assistance to the landowner and farmers that are in the Conservation Reserve Program (CRP) administered by the Department of Agriculture. This federal program compensates farmers for taking acreage out of agricultural production in order to improve water and air quality, soil stability and wildlife habitats. WDFW staff have helped these landowners qualify for CRP through technical assistance, providing on the ground materials, and helping to construct enhancements for the benefit of wildlife. Within the last 2 ½ years, Washington has become one of the most successful states in the nation in enrolling and retiring acres under the CRP program.

In 1991, WDFW initiated the Environmental Development Goes Educational project (EDGE). This project involves youth throughout the state in high school sponsored Future Farmers of America chapters, allowing them to become involved with hands-on educational habitat restoration. Over the past ten years, nearly 800 students have participated in wildlife enhancements and developments on private lands, helping to bolster valuable relationship links between landowner, sportsmen, and wildlife.

It is well known that the upland habitats, both farmland and forested, are exceedingly important to wildlife. The private lands of the state are an irreplaceable resource for wildlife and its future. The Upland Wildlife Restoration Project is a successful program and continues to be a major contributor to the efforts to protect, preserve, perpetuate and restore wildlife and their habitats, and provide hunting opportunity. The wildlife of our state is our barometer in life that tells us how we are doing as land stewards. It is true today as it was many years ago ... "Where wildlife cannot live mankind cannot survive".

